

Memo

To
CHPS

Date
July 6, 2016

Number of pages
17

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Subject
Required and Optional Configuration updates CHPS in FEWS release 2015.02

1 Introduction

This FEWS release contains of

- a FEWS stable 2015.02 build
- install notes
- release notes general
- release notes CHPS
- **configuration update document**

This document will provide configuration update instructions for those features that are most interesting to NWS and BPA, either requested by NWS and BPA or by other customers. Chapter 15 lists general remarks that may force the configurator to update the configuration or modify user settings.

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2 ModuleInstanceDescriptors.xml

Beginning in 2015.01 tighter checks were made to the use of the <simulatedHistoricalModuleInstanceId>.

Points to consider when defining moduleInstances under a single group:

- If one module instance in a group has a reference to a simulated historical, then all module instances in the group should have a reference to a simulated historical module.
- All referenced simulated historical moduleInstances should also belong to the same group.
- The ModuleInstanceGroup for Historical and Forecast should match, i.e. each module instance defined in historical (UpdateStates) module instance group should match on a one-to-one basis with the forecast module instance group. **This means that no moduleInstances such as export or import should be added to the module instance group. In addition some forecast modules without a corresponding update states, e.g. ARMA modules will also need to be excluded from the module instance group.**
- A correct configuration example is shown as below. The total number of moduleInstances in historical (UpdateStates) and forecast matches. Also the reference simulated historical module instances in LMBM5_Forecast module instance group also belongs to the corresponding LMBM5_UpdateStates module instance group.

moduleInstanceGroup (2)			
= id		{ } moduleInstanceDescriptor	
1	LMBM5_UpdateStates	moduleInstanceDescriptor (9)	
		= id	{ } moduleId
		1 ADJUSTQ_LMBM5_LMBM5_UpdateStates	TransformationModule
		2 CHANGET_LMBM5_FGIX-6HR_UpdateStates	TransformationModule
		3 MEANQ_LMBM5_LMBM5_UpdateStates	TransformationModule
		4 MERGETS_LMBM5_MAP_UpdateStates	TransformationModule
		5 SACSMA_LMBM5_LMBM5_UpdateStates	GeneralAdapter
		6 SNOW17_LMBM5_LMBM5_UpdateStates	GeneralAdapter
		7 STAGEQ_LMBM5_LMBM5_UpdateStates	TransformationModule
		8 STAGEQ_LMBM5_SSTG_UpdateStates	TransformationModule
		9 UNITHG_LMBM5_LMBM5_UpdateStates	GeneralAdapter
2	LMBM5_Forecast	moduleInstanceDescriptor (9)	
		= id	{ } moduleId { } simulatedHistoricalModuleInstanceId
		1 ADJUSTQ_LMBM5_LMBM5_Forecast	TransformationModule ADJUSTQ_LMBM5_LMBM5_UpdateStates
		2 CHANGET_LMBM5_FGIX-6HR_Forecast	TransformationModule CHANGET_LMBM5_FGIX-6HR_UpdateStates
		3 MEANQ_LMBM5_LMBM5_Forecast	TransformationModule MEANQ_LMBM5_LMBM5_UpdateStates
		4 MERGETS_LMBM5_MAP_Forecast	TransformationModule MERGETS_LMBM5_MAP_UpdateStates
		5 SACSMA_LMBM5_LMBM5_Forecast	GeneralAdapter SACSMA_LMBM5_LMBM5_UpdateStates
		6 SNOW17_LMBM5_LMBM5_Forecast	GeneralAdapter SNOW17_LMBM5_LMBM5_UpdateStates
		7 STAGEQ_LMBM5_LMBM5_Forecast	TransformationModule STAGEQ_LMBM5_LMBM5_UpdateStates
		8 STAGEQ_LMBM5_SSTG_Forecast	TransformationModule STAGEQ_LMBM5_SSTG_UpdateStates
		9 UNITHG_LMBM5_LMBM5_Forecast	GeneralAdapter UNITHG_LMBM5_LMBM5_UpdateStates

You will encounter numerous errors upon login which reflect this tighter check:

ERROR - Config.Error: The historical module instance should be configured for all or none of the members for group ASEN6HUD_Forecast

ASEN6HUD_SHEF_Export>none

RegionConfigFiles/ModuleInstanceDescriptors.xml

We have provided a generic script to remove all *SHEF_Export, *CSV_Export, and ARMA_*_Forecast modules from the forecast module instance groups and to place these modules at the bottom of the ModuleInstanceDescriptors.xml file. This script can be found under the documentation/scripts folder within the release package. A Windows executable (script_lxml.exe) is provided as well as the underlying python script. "script_lxml.py" is the code that processes the modification and "setup.py" is the code that generates the executable. If you try to generate your own executable, you need to use the following command line: python setup.py py2exe

During beta testing it was determined that the required lxml module is only available on AWIPS workstations within the version 2.6.6 of Python. If a user has their PYTHONPATH (or other environment vars) set to 2.7.9+ or some other custom location, the module is not available.

You can run the script by typing **python2.6 script_lxml.py**

To remove many of the aforementioned configuration errors, copy your ModuleInstanceDescriptors.xml file to the directory at the same level as the executable or python script. Run the executable or python script and it will generate an updated ModuleInstanceDescriptors.xml file under the newFile folder. Copy this updated file back to your configuration, reload your config, and see most of the errors removed.

Each RFC may have to touch the ModuleInstanceDescriptors file slightly to make final corrections as the script will not capture every error though it should resolve most. Additionally, there may be specific modules that RFCs frequently use that need to be removed that are not handled by the script. Each RFC could modify the python script to suit their configuration. The base logic should be present in the script.

Additional information on ModuleInstanceGroups within the ModuleInstanceDescriptors file can be found at: <https://publicwiki.deltares.nl/display/FEWSDOC/12+ModuleInstanceDescriptors>

3 Explorer.xml – systemInformation

Since 2014.02 (build 56720) a system help Url can be added to link to a FEWS help web page. This can be any Url. As a result, the systemHelpFile option must name the specific FEWS help file. The current configuration below will throw the following error:
ERROR - Config.Error: Help file specified in explorer config is empty

```
<systemInformation>
  <systemCaption>CHPS - Northeast River Forecast Center</systemCaption>
  <systemHelpFile/>
</systemInformation>
```

You must now designate the path of the help file as below, or simply comment out the line as FEWS looks for any .pdf file in the root directory as the help file.

```
<systemInformation>
  <systemCaption>CHPS - Northeast River Forecast Center</systemCaption>
  <systemHelpFile>%REGION_HOME%/Help.pdf</systemHelpFile>
</systemInformation>
```

Selecting the ? icon in the IFD will take you to the Help.pdf file. Alternatively, you can optionally define a systemHelpUrl where the selection of the ? icon will take you the public FEWS wiki:

```
<systemInformation>
  <systemCaption>CHPS - Northeast River Forecast Center</systemCaption>
  <systemHelpUrl>https://publicwiki.deltares.nl/display/FEWSDOC/Home</systemHelpUrl>
</systemInformation>
```

4 Parameters.xml – duplicate parameter groups

FEWS will now check for duplicate parameter groups as defined in Parameters.xml. You may encounter errors as below:

```
ERROR - Config.Error: Duplicate parameter group SARREGModifiers_L3
RegionConfigFiles/Parameters.xml
ERROR - Config.Error: Duplicate parameter group Temperature
RegionConfigFiles/Parameters.xml
```

This error can be visualized in the following image:

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14	Evaporation		accumulative	MM	IN		▼ parameter (2)
15	Heat Index		accumulative	MM	IN		▼ parameter (1)
16	Evapotranspiration		accumulative	MM	IN		▼ parameter (3)
17	Temperature		instantaneous	DEGC	DEGF	0.001	▼ parameter (11)
18	Temperature		mean	DEGC	F	0.001	▼ parameter (4)
19	Wind		mean	MPH		0.1	▼ parameter (1)
20	Snow Cover Depth		instantaneous	MM	IN	0.01	▼ parameter (5)

You can simply rename one of the parameter groups. However, be aware of downstream consequences, e.g. defaults classBreaks (color classifications) in SpatialDisplay.xml. You might need to add the new parameterGroupId to the appropriate classBreaks definition.

5 ModifierTypes.xml – timeSeriesModifier

There is a tightening of FEWS configuration check regarding time series modifiers, e.g. "TSCHNG" mods. In 2014.02 if you simply defined a timeSeriesModifier on a parameter it would pick up the appropriate timeStep. In 2015.02, the defaultStartTime of a tschng mod would revert to the smallest timeStep interval within that display. For the example below, the MAT time series are 6hr but the QIN time series are 2hr. The default start of a tschng mod for MAT was 12-11-2015 14:00:00

```
<timeSeriesModifier id="tschng" name="TSCHNG">
  <timeSeries>
    <parameterId>MAT</parameterId>
  </timeSeries>
  <timeSeries>
    <parameterId>QIN</parameterId>
  </timeSeries>
  <defaultStartTime>start run</defaultStartTime>
  <defaultEndTime>end run</defaultEndTime>
  <defaultValidTime/>
  <resolveInWorkflow>>false</resolveInWorkflow>
  <resolveInPlots>>true</resolveInPlots>
</timeSeriesModifier>
```

To revert to previous behavior, simply be more specific in the timeSeries designation, e.g.:

```
<timeSeries>
  <moduleInstanceId>MergeMAT_Forecast</moduleInstanceId>
  <valueType>scalar</valueType>
  <parameterId>MAT</parameterId>
  <locationSetId>Gages_Catchments</locationSetId>
  <timeSeriesType>simulated forecasting</timeSeriesType>
  <timeStep unit="hour" multiplier="6"/>
</timeSeries>
```

6 ModifiersDisplay.xml – rollbackModifierAfterDelete

NERFC reported issues deleting an existing mod if had been modified prior to trying to delete it. To understand the issue, the steps are defined below.

- 1) Select an existing mod and make a change to it somehow. (It can't be a new mod that was just created and then modified.)
- 2) Rerun the segment
- 3) Delete the modified mod
- 4) Note that the modifier remains and has reverted back to the original value.
- 5) The mod can then be deleted if you try again or set to inactive prior to deleting it the first time.

This functionality was actually designed to meet a BOM (Australia) request to "Show official modifiers after deletion of local modifiers". It was implemented in 2014.02 to be more fool-proof and logical. Deleting a locally edited modifier would revert to the approved modifier before deleting completely.

However, many RFCs believe the "delete" button should "delete" the mod. So we have added a new config option to the ModifiersDisplay.xml. The rollbackModifierAfterDelete option set to false will revert the functionality to previous builds (pre-2014.02).

```
<rollbackModifierAfterDelete>>false</rollbackModifierAfterDelete>
```

7 ModifiersDisplay.xml – Import and Export buttons

In the Modifiers Display there are now Import and Export buttons. These features were added for a BPA project in a 2014.03 release. Now you can export any selected modifier to a file with the Export button. The Import button will import modifiers from a file which has been exported. These Import/Export buttons can be disabled through configuration options in the ModifiersDisplay.xml. The showImportButton and showExportButton options can be set to false to disable or remove these buttons. These options would need to be added before the above rollbackModifierAfterDelete option.

```
<showImportButton>>false</showImportButton>  
<showExportButton>>false</showExportButton>
```

During beta testing an additional question was raised as to how to export all modifiers from within a workflow. There is current FEWS functionality to export all active modifiers using the F12-T (export – export all modifiers) option. However, this is a manual activity and several NWS mods are still not fully functional, e.g. ignorets. Such mods will be exported but do not validate against the schema.

One can set up an export of time series modifiers to be run at the end of a forecast group workflow. But non-time series mods will not be included, and there is a disconnect between modifiers and forecast simulations.

If you want to start archiving modifiers, we suggest start working with the FEWS Archive. With the FEWS Archive you can set up export workflows for the simulations and modifiers. You can export these simulations and mods to a defined directory structure. This can be done without worrying about the details on the backend processes of the Archive, e.g. bringing data back in from the Archive to an operator client.

8 ForecasterNotesDisplay.xml – expiryTimes

Forecaster Notes used to have the usual expiry default expiry time, i.e. 5 days. With the 2015.02 release, you now have the ability to configure different expiry times for different forecaster notes. This is included within the event code definition under the ForecasterNotesDisplay. This file allows for various message log templates and more control over the configuration of the Forecaster Notes display. It would be stored in the DisplayConfigFiles directory.

```
<?xml version="1.0" encoding="UTF-8"?>
<forecasterNotesDisplay xmlns="http://www.wldelft.nl/fews"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.wldelft.nl/fews
http://fews.wldelft.nl/schemas/version1.0/forecasterNotesDisplay.xsd">
  <title>Forecaster Notes</title>
  <msgTemplate id="Phone Call">
    <message>Phone call with #...
```

Special Instructions:

```
    </message>
  </msgTemplate>
  <msgTemplate id="Model Run">
    <message>Model run requested by:
```

Work phone:

Home/Cell phone:

Status:

Summary text field:

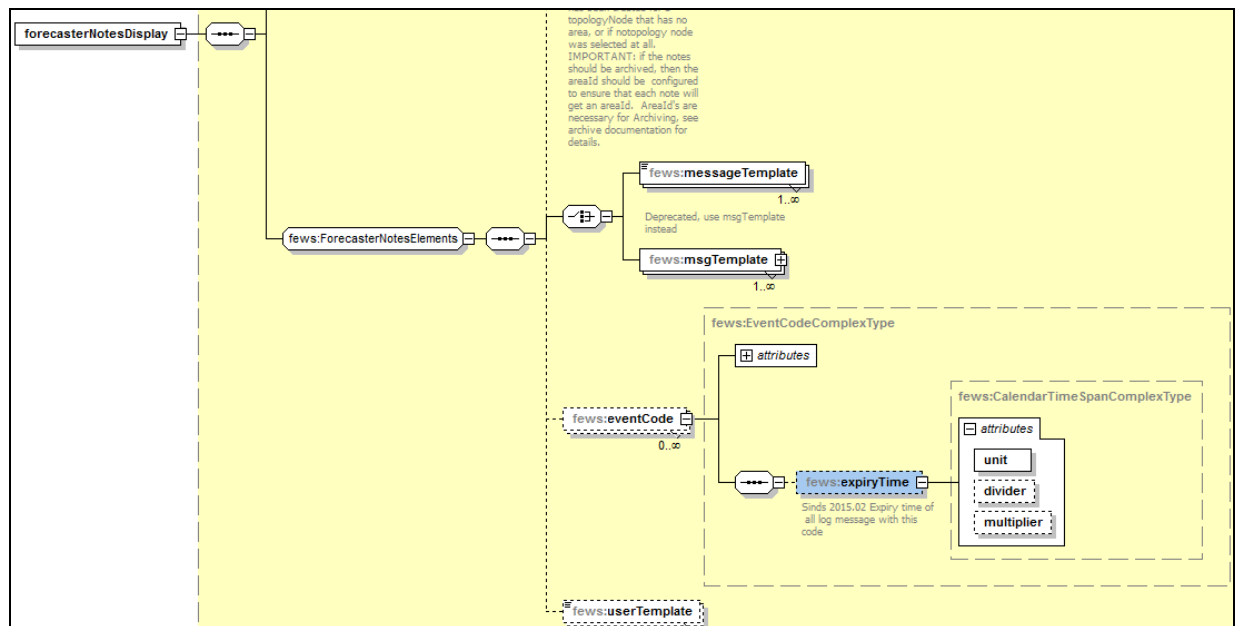
Detail text field:

```
</message>
```

```

</msgTemplate>
<eventCode id="General.info">
  <expiryTime unit="day" multiplier="365"/>
</eventCode>
<eventCode id="Dam.info"/>
  <expiryTime unit="day" multiplier="30"/>
<eventCode id="System.info"/>
<eventCode id="System.maintenance"/>
  <expiryTime unit="hour" multiplier="12"/>
</forecasterNotesDisplay>

```



9 HEC-RAS General Adapter Modules - properties

With the increasing use of template configuration files, the use of '\$' within properties needed to be tightened when used within quotations. Properties (between \$) are replaced by their literal values before copied to the run_info file. In 2015.02 you will encounter configuration errors when only using a single '\$' as a start and end within a property. The errors below are associated with the `exportRunFileActivity` of a HEC-RAS General Adapter Module.

Config.Error: Unresolved property key(s) : ^FLOW

Config.Error: Unresolved property key(s) : ^FLOW;|Hydr Radius L|^LOCATION-ELEV

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To resolve the errors, use a double '\$\$' shown below in **bold**:

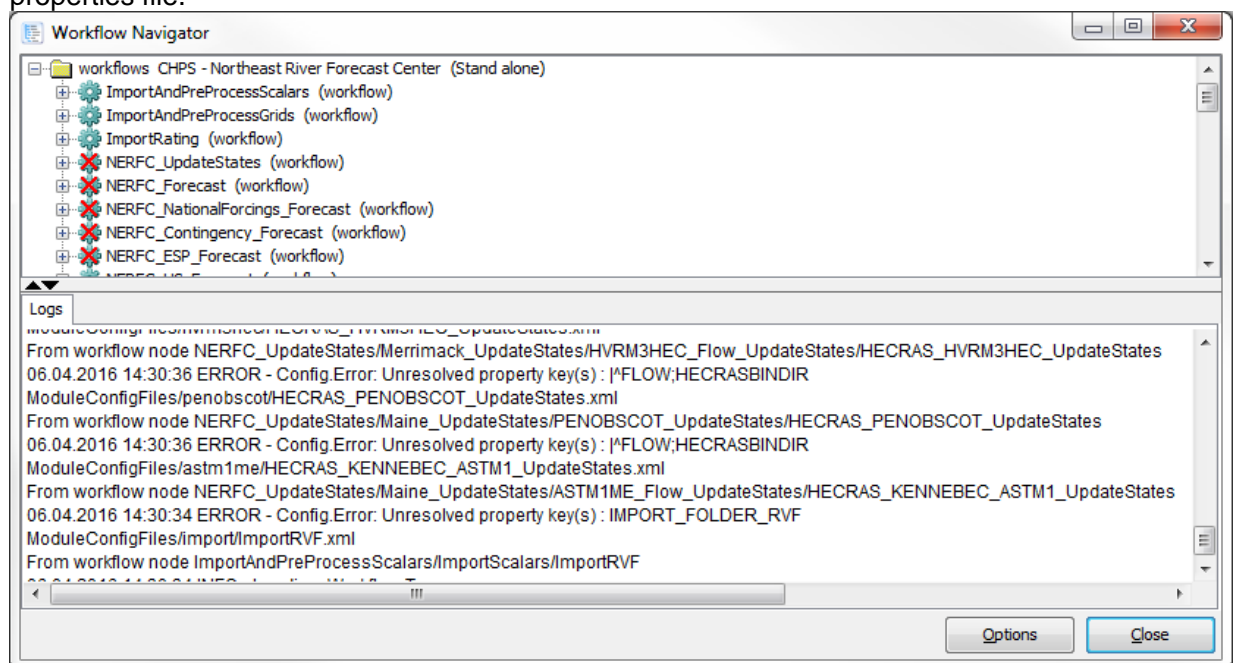
```
<string key="outputTimeSeriesParametersFilter" value="^STAGE$$|^FLOW$$" />
<string key="outputLongitudinalProfileParametersFilter" value="^STAGE$$|Hydr Radius L|^LOCATION-ELEV$$" />
<string key="logLevel" value="DEBUG" />
<string key="skipBinaryOutput" value="true"/>
<string key="hecRasEnvironment" value="LD_LIBRARY_PATH=$$HECRASBINDIR$$:$LD_LIBRARY_PATH"/>
```

If the token is the entire quote, e.g. "\$token\$" then it should be left a **single** '\$'. You should **not** change the following lines:

```
<string key="hecRasBinDirectory" value="$HECRASBINDIR$"/>
```

10 Workflow Navigator configuration checks

With 2015.02 there is additional configuration checks within the Workflow Navigator. If you select F12-K you can open the Workflow Navigator to list all workflows. Unresolved property key(s) or missing tokens are now flagged to help in resolving issues with the configuration. In the image below you will see an example where the HECRAS property key(s) identified in Section 9 are flagged. You will also see an example of an unresolved token (e.g. IMPORT_FOLDER_RVF) referenced in a module. This token is flagged since it is missing from the associated global properties file.



11 Overview of FSS/OC maintenance tasks

See below an overview of the FSS/OC maintenance tasks regarding the rolling barrel and repairAndDefrag for different client configurations.

Please note the MC:rolling barrel task should still be scheduled in all cases.

For a system with **only DDA FSS/OC**:

- It is required to replace the FSS Rolling Barrel configuration with the Compact_FSSCache workflow. This workflow runs the 'compact cache files' activity'. There is no need to run the FSS_RollingBarrel or RepairAndDefrag modules anymore.
- For compatibility reasons, the FSS_RollingBarrel task is redirected to the new 'compact cache files' activity, in case the obsolete ModuleDescriptor file is still in use including a "nl.wdelft.fews.system.plugin.rollingbarrel.RollingBarrelModule". However, for config clarity it is advised to use the Compact_FSSCache workflow instead.
- The Compact_FSSCache workflow should be scheduled at least every day, with the 'all-staggered' map option. In the 'CompactFinished' message in the log files you can see how many rows and groups are cleaned up. If it is more than 10% it can be beneficial to schedule it more frequently for optimal performance.

For a **mixture of DDA/LDS FSS/OC**:

- Also here the workflow Compact_FSSCache replaces the Rolling Barrel configuration. This is true for both the LDS and DDA clients.
- The FSS clients with a LDS still need a repairAndDefrag task, which is not included in the workflow Compact_FSSCache. It is advised to create a separate workflow for this activity and run it with a daily or weekly interval.

For **LDS FSS/OC**:

- Also here the workflow Compact_FSSCache replaces the Rolling Barrel configuration.
- The FSS clients with a LDS still need a repairAndDefrag task. It is advised to create a separate workflow for this activity and run it with a daily or weekly interval.

Note, the traditional Firebird database (LDS) reuses the space of deleted rows. It will stop growing when enough free space from deleted rows is available after a Compact_FSSCache task run. However, the LDS size never shrinks without a repairAndDefrag task. If you have large forecast grids or daily ensemble runs with short expiry times, e.g. 1 or 2 days, then scheduling a daily repairAndDefrag task will maintain a better handle on your localDataStore sizes.

Information and config examples about the Compact_FSSCache is available at <https://publicwiki.deltares.nl/display/FEWSDOC/13+Compact+index+and+cache+files>

12 valueResolution for ExportSHEF

A fix was made for the SHEF export. It previously did not use the valueResolution properly in the Parameters.xml. The valueResolution for all parameters should be the one that user wants divided by the unit in the unit conversion file.

The number of decimals is a result of the valueResolution and the unit conversion. The valueResolution for all parameters should be the one that includes unit conversion (user wanted, e.g. 0.01, divided by the unit in the unit conversion file).

For example, say you want to export the parameter SWE in inches with a precision of 2 decimal points, e.g. 0.01. Take $0.01/0.03937007874016=0.254$.

In this case the 0.03937007874016 value is the unit conversion multiplier specified in the ExportSHEF unitConversions file to convert MM to IN.

You would then designate the valueResolution for the desired parameterGroup to be 0.254.

13 Amalgamate expiry time

An additional configuration check is made by FEWS to notify the user if their Amalgamate task run has an expiry time less than the longest expiry time defined for a time series that is being amalgamated. An example error message is:

ERROR - TimeSeriesView.validateAmalgamateRunExpiryTime - Config.Error: Time series in amalgamated runs should not expire later than the newly created amalgamate run. Set the workflow descriptor expiry time (Database_Maintenance) at least to 19d 17h 7s

It is common to have differing expiry times for various time series within your import modules. These expiry times may range from several days to 100 years. So in theory, the Amalgamate workflow should have an expiry time longer than the largest expiry time, e.g. 100 years.

But it seems unreasonable to set a workflow expiry time that long, so the FEWS messaging will not throw an error if the Amalgamate expiry is >90 days. The data with the 100 year expiry time will not be purged from the database, but the Amalgamate task run will be purged after 90 days.

To avoid errors you can set the Amalgamate expiry time to 90 days either in the Workflow Descriptors file or in the Admin Interface. Both are possible though only updating in the AI will maintain your current configuration.

14 Calibration – STATQME_Calibration_StatEquations

During beta testing it was noticed that the Statqme quarterly report did not show values for the first three quarters of the first water year. The code issue was resolved but a slight change is required to the STATQME_Calibration_StatEquations module in the calibration configuration. With multiple output time series configured in this module, the first output time series configured will determine the output period of the transformation.

To get the HTML report to align with output in 2015.02, the first output time series of the STATQME_Calibration_StatEquations should have a “quarterly” time step. Previously, the first output time series had a “wateryear” time step. Simply move the last four outputs to be the first four in the STATQME_Calibration_StatEquations module. The HTML report should then correctly list the first quarter in the bottom table of the Statqme report.

```
<!-- move the following Accumulated Flow section to be the first set of outputs for 2015.02 -->
<!-- Accumulated Flow -->
<output>
  <fieldName>AccumSQME</fieldName>
  <outputVariable>
    <variableId>AccumSQME_Quarter_MY</variableId>
  </outputVariable>
</output>
<output>
  <fieldName>AccumQME</fieldName>
  <outputVariable>
    <variableId>AccumQME_Quarter_MY</variableId>
  </outputVariable>
</output>
<output>
  <fieldName>AccumError</fieldName>
  <outputVariable>
    <variableId>AccumError_Quarter_MY</variableId>
  </outputVariable>
</output>
<output>
  <fieldName>PeriodError</fieldName>
  <outputVariable>
    <variableId>PeriodError_Quarter_MY</variableId>
  </outputVariable>
</output>
<!-- ***** -->
<!-- YEARLY OUTPUT -->
<!-- ***** -->
```

15 General Remarks (from release notes)

15.1 JRE Version

The required Java Runtime Environment (JRE) belonging to Delft-FEWS 2015.02 is java 1.8.45 (or higher).

15.2 New Icon

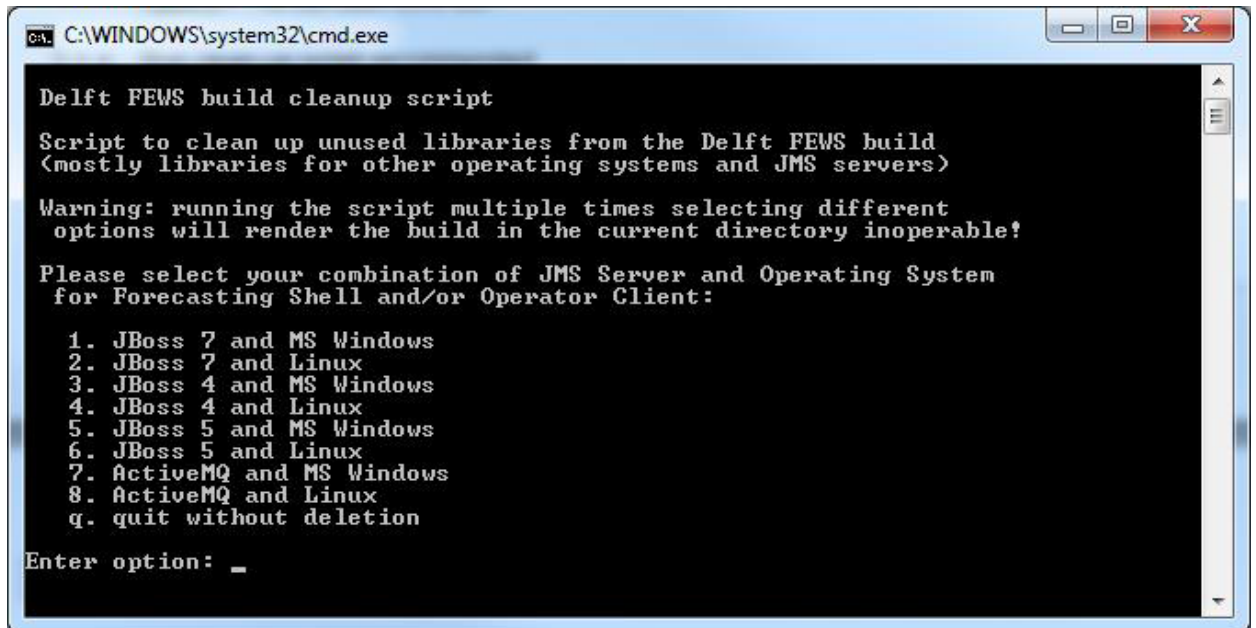
Delft-FEWS has a new icon (see image below). This icon is visible in the different displays/statusbar and other panels like the about box. The java executable – Delft-FEWS.exe - (for Windows) has been provided with this same new icon.



The new Delft-FEWS icon

15.3 Run clean-up script recommended

In the /bin folder a clean-up script (*.bat, *.sh) is provided. It is strongly recommended that the /bin folder for both FSSs as well as OCs are cleaned with the corresponding/required option. This script removes unnecessary libraries and substantially decreases the size of the /bin folder. To prevent errors, please make sure that you only run this script once in this folder. If you made a mistake, delete the /bin folder and unpack the original Delft-FEWS binaries to start again.



```
C:\WINDOWS\system32\cmd.exe

Delft FEWS build cleanup script

Script to clean up unused libraries from the Delft FEWS build
(mostly libraries for other operating systems and JMS servers)

Warning: running the script multiple times selecting different
options will render the build in the current directory inoperable!

Please select your combination of JMS Server and Operating System
for Forecasting Shell and/or Operator Client:

1. JBoss 7 and MS Windows
2. JBoss 7 and Linux
3. JBoss 4 and MS Windows
4. JBoss 4 and Linux
5. JBoss 5 and MS Windows
6. JBoss 5 and Linux
7. ActiveMQ and MS Windows
8. ActiveMQ and Linux
9. quit without deletion

Enter option: _
```

15.4 Performance improvements, PostgreSQL upgrade to 9.3 recommended

Since PostgreSQL 9.3 the blobs are no longer sent “as text” over the network. It is strongly recommended to upgrade to this (or a higher) version of PostgreSQL if you use this as a central database. If not, the performance will drop. The network load reduces by (at least) 20% if the PostgreSQL version is 9.3 or higher.

For DDA systems using PostgreSQL it is strongly recommended to upgrade for the max connection check. Otherwise too many clients can cause a shutdown of all MC and FSS due to a lack of free connections.

15.5 Amalgamate improvement checking ‘orphan’ records

The detection of problems in the Amalgamate module has been improved. An additional check is made to ensure the import run meta-data does not expire sooner than the imported time series data. This is important because amalgamate is no longer possible when the meta-data is gone. The import meta-data is removed by the amalgamate module after amalgamate. There is no need for an expiry date for the import meta-data when amalgamated.

15.6 Editing of time series in a graph

There was a client request to change the default editing behavior of a time series in a graph. After discussions with the NWS, the existing behavior was retained. So users will still get linear interpolation between clicks when moving from left to right. Clicking from right to left in a plot results in individual time series edits.

However, to meet the client request (since 2015.02) the default interpolation can be switched off with an option `interpolateBetweenTwoClickedValues=false` in the `TimeSeriesDisplayConfig.xml`. If set to false, simple clicking just changes the single value at that particular time and it does NOT interpolate over gaps between clicks. With this config option, the user can still linearly interpolate between clicks if selecting Ctrl+click. This applies to unit hydrograph mods as well.

```
</tickUnitsConfig>
<graphicalEditingConfig>
    <interpolateBetweenTwoClickedValues>false</interpolateBetweenTwoClickedValues>
</graphicalEditingConfig>
<buttonSettings>
```

15.7 Check Attribute/CSV file Configuration at Startup

Numbers with decimal commas were silently skipped in csv files. Every unparsable comma (",") was recognized as NaN. Only the text NaN, NaN, and empty string are now recognized as NaN. The user gets a message if a decimal comma is detected (Config.Error).

15.8 ActiveMQ as default JMS engine

For new systems, Delft-FEWS Product Management recommends to install ActiveMQ as the JMS engine. For existing systems it is up to the Client to decide (knowing that JBoss4 is end of life) to migrate to ActiveMQ or not. Delft-FEWS 2015.02 runs with JBoss4, 5 and ActiveMQ.

Relevant installation/migration information can be found here:

<https://publicwiki.deltares.nl/display/FEWSDOC/Upgrade+JMS+Application+Server>

15.9 Export/Import of Mods

In the Modifiers Display there are now Import and Export buttons. These features were added for another client in a 2014.03 release. These Import and Export buttons can be disabled through configuration options in the `ModifiersDisplay.xml` (see Chapter 7). Now you can export any selected modifier to a file with the Export button. The Import button will import modifiers from a file which has been exported.

Previously the UNITHG modifier could be exported as a module parameter file as part of calibration enhancements. For the UNITHG modifier there are two export buttons. The "Export" button next to the Re-run button will export a Modifiers file. The "export" button within the UNITHG mod will export the updated or calibrated module parameter file. These files will contain the same parameters, e.g. UHG_ORDINATES, but serve different purposes.

15.10 WaterCoach embedded in FEWS

Previously a separate WaterCoach.jar file was needed to run WaterCoach. With 2015.02 the WaterCoach functionality is included within the Delft_FEWS.jar. WaterCoach is now an official GUI plugin.

Documentation for the WaterCoach can be found at:

<https://publicwiki.deltares.nl/display/EAT/Education+and+Training>

This includes:

Step-by-step guide to set up a training, including script configuration:

<https://publicwiki.deltares.nl/display/EAT/How+to+set+up+a+training>

Configuration guide:

<https://publicwiki.deltares.nl/display/EAT/Scenario+and+Script+database>

<https://publicwiki.deltares.nl/display/EAT/Application+configuration>

<https://publicwiki.deltares.nl/display/EAT/Script+configuration>

User guide:

<https://publicwiki.deltares.nl/pages/viewpage.action?pagelId=120820368> (from 2016.01 onwards, though most functionality exists within 2015.02).

15.11 Config template tokens can apply to all TimeSeries elements

The relative view period, time step, time series type and value type of a time series set may now contain a property (\$VAR\$).

```
<timeSeriesSet>
  <moduleId>import</moduleId>
  <valueType>scalar</valueType>
  <parameterId>H.obs</parameterId>
  <locationId>H-2001</locationId>
  <timeSeriesType>$TIME_SERIES_TYPE$</timeSeriesType>
  <timeStep unit="day"/>
  <relativeViewPeriod unit="day" start="$START_DAYS$" end="1"/>
  <readWriteMode>read only</readWriteMode>
</timeSeriesSet>
```

15.12 Viewer for location configuration csv and dbf files

A viewer has been added to display location configuration csv and dbf files. They are displayed in a table that can be sorted, filtered, and columns can be hidden. For more documentation see:

<https://publicwiki.deltares.nl/display/FEWSDOC/20.+Tabular+Config+Files+Display>

```
<explorerTask name="Tabular ConfigFiles Display">
  <iconFile>csvfile.png</iconFile>
  <mnemonic>L</mnemonic>
  <predefinedDisplay>tabular config files display</predefinedDisplay>
  <toolbarTask>true</toolbarTask>
  <menubarTask>true</menubarTask>
  <accelerator>ctrl L</accelerator>
  <toolWindow>false</toolWindow>
  <loadAtStartup>true</loadAtStartup>
</explorerTask>
```